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A JOURNEY IN ASIA MINOR

DURING the summer of 1932 I travelled in Asia Minor. It is a country of great interest to anyone fond of plants: high mountains with an unknown alpine flora, the rich Mediterranean macchia, the highlands of Inner Anatolia covered with steppes and deserts, salt lakes, forests of Pines, *Abies*, *Juniperus foetidissima*, *Cedrus Libanii*, Oaks, *Castanea vesca* and *Fagus orientalis*. We find here rich material for gardens and botanical collections and also many new and undescribed plants. The people are hospitable and amiable, but the authorities, who, as it seems, dislike strangers going far from the great tourist centres such as Istanbul and Angora, sometimes obstruct the traveller. Surely the traveller cannot claim West-European comfort in the inner parts of Turkey, but notwithstanding the journey is not so uncomfortable as one might imagine and public safety is not less than in Europe.

I arrived in Turkey at Istanbul in the last days of June, but many unforeseen obstacles prevented me from starting at once for the south-western part of Asia Minor. I visited first the Bithynian Olympus near Brussa, then Smyrna, and went from there to Denizli and Antalya.

Brussa, in Turkish Bursa, is well known to every tourist for its hot springs known throughout the East. In addition to this and its historical monuments Brussa is known to botanists for the high mountain at the foot of which the town is situated and which rises up to the height of 2500 metres above the sea-level. It is the Bithynian Olympus, Ulu Dagħ or Keřiř Dagħ in Turkish, rich in its flora and with many endemic species. Tournefort visited the mountain in 1702; Sestini wrote a *Flora Olympica*; Grisebach was also there, but particularly rich

collections have been made by Boissier and Heldreich, whose herbarium specimens are to be found in many botanical museums.

It is very easy to reach the mountain. A road leads almost to the top and a hotel was built last year at the height of about 1700 metres, so one is easily able to live on the mountain and collect plants. In 1931 I ascended the mountain for a day by car, but in 1932 I stayed there a night and was able to collect on the summit for two whole days.

I cannot give here an account of the plant geography of the mountain and of the plant communities; I will give only a sketch of the main lines of the plant distribution of the Bithynian Olympus. The road leading from Brussa to the summit passes first through a well-cultivated landscape; then we find a kind of macchia or rather a half macchia, because not only shrubs with evergreen leaves are growing here but also Oaks and other deciduous trees and shrubs. We see here many *Cistus*, *Arbutus*, *Erica arborea*, Oaks. *Hypericum calycinum* with its great yellow flowers grows in great quantity by the sides of the road.

Then begins the forest with Oaks, Hazels and also many Chestnuts. On meadows grow *Dorycnium* species and many other meadow plants. Higher up *Fagus orientalis* begins to appear in the forest. At 1000 metres we see corn-fields. In the rye grow *Centaurea cyanifolia*, *Agrostemma Githago*, Papaver and other common European field weeds.

Here begins the forest of *Pinus Pallasiana* and we find also Beeches. Wide stretches in the forest are covered with *Pteris aquilina*. Mediterranean herbs grow on the border of the road, such as *Helichrysum graveolens* and *Achillea multifida*. The Pine belt finishes at the height of about 1300 metres where begins the forest of *Fagus orientalis* and *Abies Bornmülleriana*; the latter is a form of *Abies Nordmanniana*. Beneath we find *Juniperus nana* and in some

places also *Vaccinium Myrtillus*. The limit of the trees is about 1900 metres, but owing to the destruction of the forest the limit is often lower, so the high plateau where the hotel is built is now nearly devoid of forest. Wide stretches are covered with a kind of heath, consisting of *Vaccinium Myrtillus*, *Juniperus nana* and here and there *Bruckenthalia spiculifolia*. We find here also *Genista* species, *Lamium bithynicum*, *Thymus*, *Digitalis ferruginea*, *Scrophularia Scopolii*, *Helichrysum plicatum*, *Onobrychis Balansae* and many others from the real alpine zone. *Festuca punctoria* is very often found here but has its main distribution on the summit, which consists of marble in contrast to the main part of the mountain, which is composed of granite. On the mountain was much snow and snow-water formed many streams. I found in many places meadows with *Primula auriculata*, *Geum*, *Carduus olympicus*, *Myosotis olympica*, *Alchemilla vulgaris*, *Saxifraga*, *Pinguicula*, *Stachys germanica* var. *bithynica*. The blue flowers of a *Scilla* were seen on the border of a stream.

A small footpath leads from the top of the road to the summit. The desert formation of *Festuca punctoria* is the most remarkable plant association on the plateau on the summit. Only in small spots where snow lies longer has turf developed, and there we find *Rumex alpinus*, *Bromus cappadocicus*, *Myosotis olympica*, *Chrysanthemum trichophyllum*, *Senecio* species, *Gentiana lutea*, *Lamium bithynicum* forming with *Avena pubescens* and a tall Umbellifer a kind of rich meadow, but the dryness of the soil is so great (the soil humidity arising from the snow and not from rain, which is very rare in summer) that turf as is found in the Alps of Switzerland does not exist.

Among other plants on the summit of the mountain are: *Acantholymon*, *Echinus*, *Astragalus*, *Draba olympica*, *Gentiana verna*, *Scutellaria orientalis* var. *alpina*, *Poa alpina*, *Erodium absinthoides* var. *Sibthorpiatum*, *Alyssum suffrutescens*, *Helianthemum thessalum*, *Daphne oleoides*,

Linum olympicum, *Calamintha alpina*, *Taraxacum bithynicum*, *Anthemis montana*, *Centaurea Tichleri* and *Anthyllis pulchella*.

DENIZLI

I arrived at Denizli on the 10th of August. It is a lovely town situated on the foot of the high alpine massif, the Buba Dagħ (Father Mountain) not far from the wide plain of the Gürük Su river, the ancient Lykos. There is much water and a luxurious vegetation, and many orchards surround the town.

The next day I called on the Vali (governor) but found only his substitute, then the director of the board of education, and was very courteously and warmly received.

The next day I went by car to the village of Honaz, situated at the foot of the high mountain Honaz Dagħ, the ancient Cadmos, the ascent of which I made a day later. At Honaz all was ready for me; the chief of the village, having received instructions from the governor, gave me a soldier and a forester as guides. Then I hired a horse and an English-speaking Turk, a barber who had spent about twenty years in America. Honaz is a nice village about 580 metres with many gardens and a mosque.

At six in the morning our little caravan started. First the way led through the gardens, then turning up a little valley we were soon in the region of a devastated leaf forest with *Juglans regia*, big *Castanea vesca*, with a number of shrubs and smaller trees, such as *Juniperus Oxycedrus*, *Cornus Mas*, *Juniperus excelsa*, *Crataegus*, *Cercis Siliquastrum*, *Rhus Cotinus*, *Pistacia Terebinthus*, *Rubus* and *Rosa* species. It is a *Quercus coccifera* macchia, but not so rich in species as on the sea-shore.

Now the path becomes very steep, the Chestnuts disappear, a forest begins of *Pinus Brutia* with dominating shrubs of *Quercus coccifera* and scattered *Rhus Cotinus*. Higher up at the height of about 1000 metres begins *Pinus Pallasiana*, at first with *Pinus Brutia*, then alone with the

same macchia plants. The last *Quercus coccifera* I saw at 1500 metres quite prostrate; here was also the last *Rhus Cotinus*. Now begins the high mountain *Pinus Pallasiana* forest, whose characteristic is *Juniperus foetidissima* which begins to appear at the height of about 1500 metres and forms still higher a forest without Pines. Here it is quite a big tree about 10 metres high, which forms the limit of the trees about 2000 metres (Fig. lxxx). In the upper forest of *Pinus Pallasiana* appear some alpine plants, such as *Astragalus*, *Acantholymon*, a yellow Labiate, *Salvia cadmica*, *Digitalis*, and on the bare rocks grow *Umbilicus chrysanthus* and *Sedum sempervivoides*.

At twelve o'clock we were at the settlement of a Yurük. Yurüks are the nomad or half-nomad population of the inner parts of Anatolia. They have, more than the population of the towns, kept the Turkish-Mongol type. They are more primitive and live in great rectangular black tents of goat wool. Many of the Yurüks have become sedentary, but some of them still live summer and winter in such tents on the high mountains or on wide pastures on the lower slopes, where they graze cattle. The Yurük with whom we stayed had camels, sheep, goats and horned cattle. A fire was burning in the middle of the tent. We sat on carpets drinking coffee, while the mistress of the house prepared the dinner, consisting of a kind of pancake. A little later a bowl with sour milk was given us with a wooden spoon and a packet of thin pancakes in which warm pieces of meat were wrapped. The women did not take part in the meal. The tent of the Yurük was at the height of about 1700 metres. After dinner I went with two of the men to the alpine height.

Large clearings in the wood were covered with a kind of meadow of high herbs consisting of *Verbascum*, *Digitalis*, the yellow Labiate. A *Berberis* with long thorns grows here untouched by the cattle, also some spiny *Astragalus* shrubs.

Above the limit of the forest began the real alpine zone. No meadow plant, but only typical desert-plant communities covered the region, where plants such as *Acantholymon*, *Astragalus* and others were growing in scattered communities among the bare chalk and chalk rubble. We returned in the evening to the tent, where we got nearly the same meal as at midday.

Next day we rose at five. I sent down the horse with one man and the heavy luggage with the collected plants and climbed with the English-speaking barber and the soldier to the top of the mountain. We arrived on the highest point at ten, where my barometer showed 2500 metres. An interesting flora was growing here. On stony places I found *Astragalus*, *Acantholymon*, *Festuca punctoria* (or perhaps it was a similar form) and *Minuartia*. A beautiful *Silene* with dark red flowers formed cushions.

The highest summit consisted of marble. I found here a *Rosa*, the highest shrub, at 2500 metres, *Thymus*, *Verbascum* and a small yellow *Centaurea*. From here a small path led down the hill.

The Honaz Dagħ was explored by Boissier in 1904. It has also been explored by the German professor of geology, Philippson, who wrote a description of the mountain and made a geological map of the whole country. Some kilometres to the west of Denizli lies the small village of Gerzele surrounded by fine gardens. I saw here every kind of tree. A variety of tobacco is specially cultivated in great quantity. I was told that it is the best in the country. A little higher at the foot of the mountain begins again the same *Quercus coccifera* macchia which we saw before. At the end of the valley on a terrace at the height of about 800 metres was seen a thick forest of Chestnuts, quite another type of vegetation, with *Juglans regia*, *Cercis Siliquastrum*, *Rubus*, *Platanus orientalis* and other trees.

Denizli gave me the best impression of the Turkish provincial town. The habitants were very amiable and

hospitable; they were interested in my work and were ready to help me in every respect. Denizli is interesting not only for its high mountains but also for the ancient towns in the neighbourhood such as Laodikea, Hierapolis, Kolossae with its wonderful white chalk terraces and the *Nerium Oleander* bushes growing there.

ANTALYA

From Denizli I went by train to Baladiz, a little station in the highlands of Anatolia. The high surrounding mountains are covered with occasional forest of Pine; a macchia of *Quercus coccifera* extending over the hills and the lower parts of the mountains are the last very poor remains of the Mediterranean macchia. But the plain is covered with steppes and deserts, entirely scorched by the hot sun. The big lake of Adji Tus Gölü is quite white and seems to be covered with ice, which is only a layer of salt, and salt plants are growing on the shores, but it was impossible for me to collect these plants during the drive.

From Baladiz a bus goes to the town of Burdur, situated at the foot of sandy hills without any vegetation, not far from the salt lake of the same name. Many gardens surround the town, which is one of the most typically oriental towns I visited in Asia Minor: narrow streets, and the women veiled and wearing trousers. The next day I went with the mail bus still further, 133 kilometres to Antalya. First the road goes up to a pass where the vegetation changed. Instead of the desert-like landscape we came to a vast well-cultivated plain. The hills and the mountains were covered with *Quercus coccifera* macchia and an occasional *Pinus Brutia*. The village of Bucak is the principal centre of the region. There was no sign whatever of the Kestel lake shown on my maps. Later we crossed a second pass when I was in an absolutely new world. Instead of the *Quercus coccifera* macchia there was a luxuriant vegetation consisting of *Arbutus* trees, *Myrtus*, *Juniperus Oxycedrus*,

Jasminus, Cistus and many other trees and shrubs. *Pinus Brutia* grows here in different situations; it was the rich type of the Mediterranean macchia.

The Padem Agch pass is a vegetation break between the poor vegetation of the inner highlands of Anatolia and the rich region of the southern coast. The way led through the narrow valley down to the plain, where we saw a river and a lake covered with *Nymphaea* and other water plants. A coffee-house stood here, as in every picturesque spot of the road, the Turks being great lovers of fine and picturesque views, where they can sit the whole day drinking their coffee and enjoying the scenery.

A macchia rich in plants extends from here and descends in terraces to the sea-shore, where the town of Antalya lies. The blue pointed Lycian Alps rise on the right with the big white chalk summit of the Bereket Dag and the Tachtaly Dag near the sea. These I wanted to visit, to collect plants and seeds and to make a plant geographic sketch of the region which is entirely unknown to botanists. But my visit turned out differently, and my stay of about a fortnight at Antalya was not a botanical one. Still I must mention the town situated on a high terrace over the blue sea, with its old towers and walls, the Seldshukish minarets and the splendid view over the Lycian Alps, rising just on the opposite side of the gulf.

The chief of the police, to whom I presented myself the next day, told me that the Vali was not there at present, but that they would tell him about me and give me all the assistance I wanted. I had a recommendation from the Turkish Embassy at Berlin, but notwithstanding I was cross-questioned as to my person, my papers, my occupation and so on. The Turks, it seems, did not trust the above recommendation and thought that it was forged. The next day I was called to the police office, when I was told that I could not go to Lycia until I had obtained special permission from the Ministry at Angora. I answered

that at Denizli it was not necessary, but was told that the Vali at Denizli did not obey orders and that he should have inquired at Angora before giving assistance to travel in his vilayet. I told him that I had acquaintances—Swiss citizens, who had travelled in Lycia—and the reply was that they were not professors. Everybody could travel there, only professors must have a special permission. They would get permission for me, in three or four days' time. Three or four days passed, but no answer came. Instead I was asked to leave the town, but I answered that I would start only when I wanted and not when the police wished. I saw that I was considered a dangerous man and probably a spy. Two policemen came to the hotel I stayed at and asked me if I had arms. They were told that I had been seen the previous evening with a weapon going up and down my room aiming at the ceiling. I could easily prove that the weapon was a "flit" sprayer and that, instead of shooting, I had been destroying mosquitoes in my room. It seems the police were watching me through their agents who had mistaken a sprayer for a fire-arm. To the Turks a botanist is a suspicious person; the scope of his journey is unintelligible and they suspect something else. Perhaps he is a spy, so it will be better to watch him and not to let him travel any further. So was the end of my travel in the vilayet of Antalya.

C. REGEL,

[Figs. lxxx-lxxxiii.]

Lithuania.



FIG. LXXX.—The Honaz Dagħ with Juniper trees in the foreground (p. 239)



FIG. LXXXI.—The top of the Bithynian Olympus with *FESTUCA PUNCTORIA* (p. 238)



FIG. LXXXII.—*JUNIPERUS NANA* with *CHRYSANTHEMUM TRICHOPHYLLUM*
on the Bithynian Olympus (p. 238)



FIG. LXXXIII.—Forest of PINUS BRUTIA near Denizli (p. 240)